

The listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. **(withdrawn)** A method for producing a releasable copper foil on a carrier substrate, comprising the steps of:
 vapor-depositing a layer of copper onto a carrier substrate having a separation facilitating layer formed thereon, wherein the vapor-deposited layer protects the separation facilitating layer during subsequent processing; and
 electrodepositing a layer of copper onto the vapor-deposited layer of the metal, thereby increasing the thickness of the copper layer.
2. **(withdrawn)** A method according to claim 1, wherein said separation facilitating layer includes at least one metal oxide.
3. **(withdrawn)** A method according to claim 2, wherein said metal oxide is selected from the group consisting of: aluminum oxide, tin oxide, chromium oxide, nickel oxide, copper oxide, an oxide of stainless steel and zinc oxide.
4. **(withdrawn)** A method according to claim 1, wherein said separation facilitating layer includes at least one organic material.
5. **(withdrawn)** A method according to claim 4, wherein said separation facilitating layer includes at least one organic material selected from the group consisting of: silane, benzotriazole (BTA), and isopropyl alcohol.
6. **(withdrawn)** A method according to claim 1, wherein said separation facilitating layer has a thickness in a range of 5Å to 1000Å.

7. **(withdrawn)** A method according to claim 1, wherein said carrier substrate is comprised of copper.

8. **(withdrawn)** A method according to claim 7, wherein said separation facilitating layer is a stabilization layer.

9. **(withdrawn)** A method according to claim 8, wherein said stabilization layer includes chromium oxide and zinc oxide.

10. **(withdrawn)** A method according to claim 1, wherein said carrier substrate is comprised of at least one metal from the group consisting of: aluminum, tin, copper, chromium, nickel, stainless steel and plated carbon steel.

11. **(withdrawn)** A method according to claim 10, wherein said separation facilitating layer is comprised of a natural occurring oxide of at least one metal comprising said carrier substrate.

12. **(withdrawn)** A method according to claim 1, wherein said method further comprises applying said separation facilitating layer to said carrier substrate by subjecting the said carrier substrate to a stabilization process.

13. **(withdrawn)** A method according to claim 1, wherein said step of vapor-depositing includes one of physical vapor deposition, chemical vapor deposition and a combination thereof.

14. **(withdrawn)** A method according to claim 13, wherein said step of vapor-depositing includes vacuum deposition.

15. **(withdrawn)** A method according to claim 1, wherein said vapor-deposited layer of copper has a thickness in a range of 50Å to 10,000Å.

16. **(withdrawn)** A method according to claim 1, wherein said electrodeposited layer of copper has a thickness in a range of 1 µm to 35 µm.

17. **(withdrawn)** A method according to claim 1, wherein said carrier substrate has a weight per unit area in a range of 0.5 oz/ft² to 3 oz/ft².

18. **(currently amended)** A component for use in forming a printed wiring board, comprising:

a metal carrier substrate;

a separation facilitating layer formed on the metal carrier substrate;

a vapor-deposited layer of copper on the separation facilitating layer, wherein the vapor-deposited layer has a thickness in a range of 50Å to 10,000Å to protect[[s]] the separation facilitating layer; and

an electrodeposited layer of copper having a thickness in a range of 1 µm to 35 µm on the vapor-deposited layer of copper.

19. **(original)** A component according to claim 18, wherein said separation facilitating layer includes at least one metal oxide.

20. **(original)** A component according to claim 19, wherein said metal oxide is selected from the group consisting of: aluminum oxide, tin oxide, chromium oxide, nickel oxide, copper oxide, an oxide of stainless steel and zinc oxide.

21. **(original)** A component according to claim 18, wherein said separation facilitating layer includes at least one organic material.

22. **(original)** A component according to claim 21, wherein said separation facilitating layer includes at least one organic material selected from the group consisting of: silane, benzotriazole (BTA), and isopropyl alcohol.

23. **(currently amended)** A component according to claim 18, wherein said separation facilitating layer has a thickness in a range of 5Å to 1,000Å.

24. **(currently amended)** A component according to claim 18, wherein said metal carrier substrate is comprised of copper.

25. **(original)** A component according to claim 24, wherein said separation facilitating layer is a stabilization layer.

26. **(original)** A component according to claim 25, wherein said stabilization layer includes chromium oxide and zinc oxide.

27. **(currently amended)** A component according to claim 18, wherein said metal carrier substrate is ~~comprised of at least one metal~~ selected from the group consisting of: aluminum, tin, copper, chromium, nickel, stainless steel and plated carbon steel.

28. **(original)** A component according to claim 27, wherein said separation facilitating layer is comprised of a natural occurring oxide of at least one metal comprising said carrier substrate.

29. **(original)** A component according to claim 18, wherein said separation facilitating layer is a stabilization layer.

30. **(currently amended)** A component according to claim ~~[[1]]~~ 18, wherein said vapor-deposited layer of copper is formed by one of physical vapor deposition, chemical vapor deposition and a combination thereof.

31. **(currently amended)** A component according to claim ~~[[30]]~~ 18, wherein said vapor deposition includes vacuum deposition -deposited layer of copper is formed by sputtering.

32. **(currently canceled)**

33. **(currently canceled)**

34. **(original)** A component according to claim 18, wherein said carrier substrate has a weight per unit area in a range of 0.5 oz/ft² to 3 oz/ft².

35. **(currently amended)** A component according to claim ~~[[1]]~~ 18, wherein said vapor-deposited layer of copper is formed by a combustion chemical vapor deposition process.

36. **(new)** A component for use in forming a printed wiring board, comprising:
a copper substrate;
an inorganic separation facilitating layer formed on the copper substrate;
a vapor-deposited layer of copper on the separation facilitating layer, wherein the vapor-deposited layer protects the separation facilitating layer; and
an electrodeposited layer of copper on the vapor-deposited layer.

37. **(new)** A component according to claim 36, wherein said inorganic separation facilitating layer includes at least one metal oxide.

38. **(new)** A component according to claim 37, wherein said metal oxide is selected from the group consisting of: tin oxide, chromium oxide, nickel oxide, copper oxide, an oxide of stainless steel and zinc oxide.

39. **(new)** A component according to claim 38, wherein said inorganic separation facilitating layer has a thickness in a range of 5 Å to 1,000 Å.

40. **(new)** A component according to claim 39, wherein said stabilization layer includes chromium oxide and zinc oxide.

41. **(new)** A component according to claim 38, wherein said electrodeposited layer of copper has a thickness in a range of 1 μm to 35 μm .

42. **(new)** A component according to claim 38, wherein said carrier substrate has a weight per unit area in a range of 0.5 oz/ft² to 3 oz/ft².

43. **(new)** A component for use in forming a printed wiring board, comprising:
a metal carrier substrate;
a separation facilitating layer formed of a metallic oxide on the metal carrier substrate, said separation facilitating layer having a thickness in a range of 5 Å to 1,000 Å;
a vapor-deposited layer of copper on the separation facilitating layer, wherein the vapor-deposited layer protects the separation facilitating layer; and
an electrodeposited layer of copper on the vapor-deposited layer.

44. **(new)** A component according to claim 43, wherein said metal oxide is selected from the group consisting of: tin oxide, chromium oxide, nickel oxide, copper oxide, an oxide of stainless steel and zinc oxide.

45. **(new)** A component according to claim 44, wherein said carrier substrate is comprised of copper.

46. **(new)** A component according to claim 45, wherein said stabilization layer includes chromium oxide and zinc oxide.

Application No. 10/074,988
Amendment dated December 5, 2003
Response to Notice of Non-Compliant Amendment dated November 24, 2003

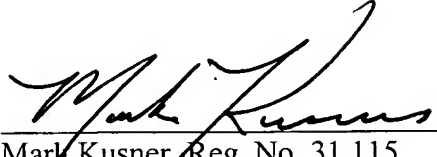
47. **(new)** A component according to claim 45, wherein said electrodeposited layer of copper has a thickness in a range of 1 μm to 35 μm .

48. **(new)** A component according to claim 45, wherein said carrier substrate has a weight per unit area in a range of 0.5 oz/ft² to 3 oz/ft².

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Respectfully submitted,

Date: December 5, 2003



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Date: December 5, 2003


Christine Goellner